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COLMAN'S RURAL WORLD.

NORMAN J. COLMAN, EDITOR.

Published every Wednesday, in Cheneau Building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers O. Colman, 620 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Cheneau Building, St. Louis, Mo.

Subscribers must bear in mind that the subscription price of the RURAL WORLD is one dollar a year, and that we do not receive single subscriptions for a less sum, but in our constant effort to enlarge our circulation, we do allow old subscribers to take actually NEW subscribers at the fifty-cent rate, adding a new name with their own for one dollar, and other new names at fifty cents each, but in no case do we accept two OLD subscribers for one dollar. We are willing to make a loss on a new subscriber the first year, believing he will find the RURAL WORLD indispensable ever after. We also send the RURAL WORLD in conjunction with either the twice-a-week St. Louis "Republic" or the twice-a-week "Globe-Democrat" for one dollar and fifty cents a year, and new subscribers may be added at the fifty-cent rate. Published at this remarkably low price—at less than actual cost—all subscribers must see the necessity of our dropping from our subscription list every name as soon as the year paid for expires. Thus if, on the printed slip on each paper you see John Jones, Nov. 1, it indicates that the name will drop from the list at the end of November, and if he wishes to continue to receive it, he must renew his subscription. If he would do it a week or two in advance, it would save us the trouble of taking his name off the list and again putting it in type, when he renewed, which frequently causes mistakes.

This is the season to push the good work of getting new subscribers. Show your neighbors a copy of the RURAL WORLD, call their attention to the large amount of fresh, original, entertaining and instructive reading matter contained in each issue; tell them of our large number of intelligent correspondents, and how highly you appreciate its weekly visits and of the low cost at which it can be received. If our readers will spend but a portion of one or two days in enlisting in this work they can easily add more than fifty thousand new names before the first of January! Who will engage in this work? Will not each reader, male and female, young and old, go into the field at once and see how much he can do to help not only the farmer, but the cause of progressive agriculture?

"The Markets," on page 8, are a source of both profitable and interesting study. Note, for example, the fruit and vegetable quotations in this issue, and see how "seasons" for fresh fruits and vegetables have been eliminated or rather extended the year around. Florida strawberries, New York grapes, northern grown potatoes, New Orleans lettuce, California cauliflower and eastern hot-house cucumbers all on the St. Louis market in mid-winter.

Professor W. J. Spillman, who has for a number of years been connected with the agricultural experiment station at Pullman, Wash., has been selected to succeed Prof. F. Lamson-Scribner as chief of the Division of Agrostology. Professor Spillman has been carrying on some very important investigations in grasses at the Washington station, particularly along the line of wheat breeding. He will be a worthy successor to Professor Lamson-Scribner, who goes to the Philippines to establish a Department of Agriculture.

The statement on page 2 of this issue, from the "Chicago Produce," regarding the unity of sentiment among agricultural papers as to the wisdom of federal legislation which shall prevent the makers of and dealers in oleomargarine imposing their goods on consumers as butter, should make clear to Congress that this is not simply a dairyman's matter. The resolution adopted by the Missouri State Board of Agriculture, which also appears on page 2, shows this fact. Missouri's largest agricultural interest is live stock, but the Board of Agriculture, in no uncertain terms, asks Congress to enact the Grout or a similar bill.

And so, according to the mouthpiece of the oleo makers at the Chicago Stock Yards, such bodies as the Missouri State Board of Agriculture, comprising 19 members and including the Governor, the Dean of the Agricultural College, a former U. S. Secretary of Agriculture and but one man directly interested in dairying, together with 100 editors of the leading agricultural papers of the country, are "a lot of confederates, schemers and misinformed scoundrels."

THE 1902 OUTLOOK.

With sighs of regret for opportunities not improved, with reviews of failures, with thoughts of honest, earnest labor not crowned with success because of unfavorable circumstances, the book of life for 1901 is a completed volume. To every thoughtful individual the mistakes of the year, its losses, its experiences are fraught with some lesson or some suggestion that will enable him to take up the labors of the new year with courage. The evidences of crop failures for the year 1901 are still too real a fact to be ignored. They will color the farming operations of the coming year. The expert farmers have made to relieve the conditions due to the continued drought will prove to that a different mode of farming must be pursued. One man in the community who puts in practice the intensive methods of farming will show whether such farming is profitable in his district. Men are prone to follow a lead, and farming may have many new problems for the individual to work out. There will be counters and there will be in 1902 because of the drought, croakers, much as there were.

When they wielded all our feeble states to one united chain.

And proclaimed an open market to the wide world's brawn and brain, Kings and tyrants of all lands rolled their heads and raised their hands.

As they clamored at the notion of a Nation gone insane:

And they said: "You'll never do it!"

But we did.

Spit of friction and fact.

There was singleness of action.

And we did.

This spirit is still vigorously alive in America, and especially so in this Middle West. If we did we can and we will seem to be the key note of the farming population. No pursuit has been given so much attention by science in recent years as has agriculture. This is right. The foundation of a nation's wealth and greatness may be traced to her fertile fields and her rural homes. Life in the city is a struggle with the middle class for existence. The hope of the nation is with the middle class. The rich do not have to toil, and a life of luxurious idleness weakens the mentality. The great law of the universe, what is not used becomes useless, is verified in the children of the rich. The struggle in the centers of population for the poor man to earn a living is so great that little time is left for vigorous thought; hence the country home, where there is opportunity for putting intelligent thought into labor is the recruiting ground of the nation.

In view of these facts farmers should study every phase of their life.

In 1902 let the aim be to conduct the farm in all its manifold lines as to endear it to the child. If the home is underfurnished, let there be a union of effort to improve existing conditions to all that is possible. With tact teach the sons and daughters to love pastoral poems. Secure for them books on all the various branches of agriculture. Cultivate the idea in farm life, for the ideals must precede the realization. The difficulty is many times too long on the ideal. This is unfortunate. Each family in a rural district has its part to perform in establishing the era of more intelligent farming. The RURAL WORLD is so convinced of the benefits of a knowledge of the underlying principles of agriculture to farmers that it will grow more vigorously than ever, if possible, spread the gospel of higher intellectuality for the farm home. It will never cease its efforts until the principles of agriculture are taught in all rural schools, until our agricultural colleges are crowded with young men and women who are in attendance with the sole purpose of returning to the farm with a better knowledge of their business. With this aim, we greet our readers with wishes for peaceful, prosperous and a Happy New Year.

A GOOD WAGON JACK.

The greasing of the wagon is often postponed until the breaking of the wheels sets one's nerves on edge, to say nothing of the damage to the wheels caused by the friction. This neglect is very frequently due to the fact that there is no convenient tool to aid in lifting off the wheels. Farmers should avoid back breaking tasks when wood or iron can be made to save man's muscle. A wagon jack will do this work most effectively. A thrifty farmer gives the following directions for making a substantial wagon jack:

Take a block three inches wide, four inches thick and 18 inches long; then two upright pieces to fit 18 inches long; bolt the uprights, one on each side, one inch from end to end. Bore three holes from the long end of the block to the upright. Bore three holes one-half inch in the upright pieces; first hole two inches from top, second, five inches; third, eight inches lower. These different holes are to raise or lower the lever. When used on a high or low wagon, put on your lever opposite long end of block. Take a three-eighth-inch rod, 28 inches long, rivet it on an old side of a sickle or any other sharp iron crossways on the rod; pass it between the two uprights and bolt to the lever 14 inches from the end. The lever should be three feet long, and the hole in the lever, for pin in upright eight inches from the end.

WHAT IS AGRICULTURE?

We deem it unfortunate that many of those who are interested in certain agricultural specialties fail to recognize the fact that their respective specialties are but divisions of one great industry—the greatest and most important of the world. This discrimination is quite strongly marked among our horticultural friends, and often leads them into positions that are illogical and, to our mind, untenable. For instance, in a few years ago for instruction in agriculture in our rural schools, horticulturalists quickly fell in line and advocated the teaching of "agriculture and horticulture" in the rural schools, but soon began to manifest a strong tendency to modify their demand and ask simply for the teaching of horticulture, which was a logical step, when starting with the idea as embodied in the combination of the words "agriculture and horticulture." The false premise is in assuming that horticulture is co-ordinate with agriculture.

Webster defines the word agriculture thus: "The art or science of cultivating the ground, including the harvesting of crops and the rearing and management of live stock; tillage; husbandry; farming."

If Webster is correct, then horticulture is not co-ordinate with agriculture, but is simply a division, as is live stock-husbandry, and we protest against the use of the word horticulture in a way that conveys the idea that it is distinct from agriculture. The fruit and flower growers certainly have to do with the cultivation of the ground and the harvesting of crops; they have to do with the same principles of plant growth, the same principles of soil physics, of soil fertility and of climatology relative to plant growth as have the growers of potatoes, corn and cow peat, and it is absurd for the former to say, in effect, that their industry is separated from that of the latter into a distinct and separate division.

The line which is drawn around any one of the great divisions of agriculture is an arbitrary one, and is made to include in some cases what in others is excluded. To illustrate, if one were to name a list of crops commonly grown by general farmers, "agriculturists" some would call them, clover would very likely be named as one.

Nevertheless the up-to-date horticulturist—that is the orchardist—is quite apt to include the growing of clover as a legitimate and logical part of his operations and for the purpose of enriching the soil in which his trees are growing; and it is quite as likely that he will utilize some of that clover as bee and pasturage, as for his milk cow and team of horses, just as the "agriculturist" does.

Probably as a result the "horticulturist" will sell some honey, a few fat pigs, the cow will make a surplus of butter, which will be sold, and possibly the team of mares will raise colts when doing the work of cultivation for the orchard.

And so on the other hand the "agriculturist" may extend his line until he includes within his operations the growing of small and orchard fruits, the producing of honey, etc., or he may make his circle of operation so small as to include merely the growing of clover as a hay crop to be sold. The market gardener, who is usually classed with horticulturalists, will grow beets as a regular part of his business, and the general farmer, or "agriculturist," grow them for stock food. If the stock the latter grows the beets for a herd of cows kept for milk and butter purposes, does he cease to be an "agriculturist," and become a dairyman instead? And if he grows beets to feed to a bunch of young pure-bred shorthorn bulls, is he not a stock breeder?

Surely these different lines of industry are sufficiently closely related to permit of a general classification under some one term, and that term, according to Webster, is agriculture. Hence we have our agricultural colleges, where apple and rose culture, corn growing and cattle breeding are all studied as divisions of the general subject of agriculture; and our National Department of Agriculture with its various bureaus and divisions, with experts in charge of each, all working more or less independently, yet harmoniously, and presided over by the secretary of agriculture. And, by the way, it is just such a logical conception and arrangement as is found in the United States Department of Agriculture that should, and we trust will, be found in the agricultural exhibit of the St. Louis World's Fair of 1902.

THE LITTLE SIMPLETON.

In the report of the farmers' institute held at Festus, Jefferson County, Mo., as published in the Jefferson "Democrat," we find the following regarding a RURAL WORLD reader:

"Our wide awake and progressive citizen, Ephraim Williams, was on hand and delighted the people with the working of his wonderful road grader. On Friday he graded 100 yards of road in 40 minutes and on Saturday 225 yards in one hour and 15 minutes, thus grading over 300 yards in less than two hours. Prof. Stinson ordered one sent to him for his own use. Every one who saw it work expressed surprise and admiration. Its simplicity is almost beyond comprehension to those who have not seen it. I would suggest that Uncle Eph call it the 'Little Simpleton.'

ETCHINGS FROM EDGEGOOD.

Editor RURAL WORLD: After a lapse of over two years, for which I trust the readers of the RURAL WORLD will surely thank me, the spirit moves me to keep my promise to "write again," even though the desire is so long that I am afraid it may be forgotten. Following now in ten days and before Christmas too, is our somewhat remarkable experience. On the 8th and 9th the mercury was hovering about the zero mark and made us think we were living in Alaska, instead of Southern Missouri. But "the doctor" and I had gotten things into pretty comfortable shape for the stock, and the wood pile was ready for the onslaught of stoves and fireplaces, so we can watch the sparks fly up the big chimney in both mental and physical comfort. We are making a test of shredded fodder, and so far as we have tried it is a success. A good wagon jack will do this work most effectively. A thrifty farmer gives the following directions for making a substantial wagon jack:

Take a block three inches wide, four inches thick and 18 inches long; then two upright pieces to fit 18 inches long; bolt the uprights, one on each side, one inch from end to end. Bore three holes from the long end of the block to the upright. Bore three holes one-half inch in the upright pieces; first hole two inches from top, second, five inches; third, eight inches lower. These different holes are to raise or lower the lever. When used on a high or low wagon, put on your lever opposite long end of block. Take a three-eighth-inch rod, 28 inches long, rivet it on an old side of a sickle or any other sharp iron crossways on the rod; pass it between the two uprights and bolt to the lever 14 inches from the end. The lever should be three feet long, and the hole in the lever, for pin in upright eight inches from the end.

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DON'T WASTE THE MANURE.

The wall of the eastern farmers over wornout and abandoned farms should be a warning to western farmers. Excessive cropping of heavy feed plants will exhaust the most fertile land. How to supply needed fertilizers at least cost is a problem that should have as much attention as the harvesting of the crop. This may seem to be stating the case very strongly, but this factor in farming cannot be too strongly emphasized, because farmers are often neglectful of their cheapest fertilizer—the manure pile.

J. W. Mitchell of the Kansas City Stock Yards says:

"There has never been any manure sold from these yards. The farmers could have it for the hauling of it away. We clean pens once a week. We have 14 double carts that hold three yards that are kept in use six days in a week. They take from 20 to 25 loads each day, making from 1,800 to 18,000 yards per week, and this is dumped into the river. The farmers of this county do not seem to appreciate the value of manure, as we do not have a demand for it.

RICKMER.

Dallas Co., Mo., Dec. 16.

up to their ears is to make one believe they like it, and there is so little else that looks as though we wouldn't have to clear the mangers out this winter. I scattered about a barrel of salt through this lot, which appears to be "just about salt enough," for the cattle eat little salt outside, and as it brings some moisture to the fodder it thereby reduces the dust.

I am inclined to believe that notwithstanding the high prices of feed of all kinds we shall find in the spring it will be hard to carry cattle through, especially if feeding is done judiciously and without waste.

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PEBBLES FROM THE POTOMAC.

Editor RURAL WORLD: These busy days scarcely realize the flight of time till the bells ring in the tidings that a new year has been launched forth on the great ocean of eternity. The first year of the century has well-nigh completed its mission, and—

Like frostwork in the morning ray
Like fancied fabrics melt away—
These dull December days. In vain Time
lays his palsied hand on the dial of years
to retain his throne; already at the castle gate
he hears the youthful giant fretting
to assume control and nail his colors to
the mast and, passing strange to say,
but few essay to break a feeble lance in
behalf of the reigning monarch. The
parties are little black and brown and
now white with snow, and the hills have
done to the snow what winter does to the
pines here.

Such statement does not seem so startling when we know that the manure on most farms is not treated so as to yield the best results. A portable barn would be the need of some farms, it is
seen.

True, the item of labor in handling manure is large and one must study how to reduce this to the minimum. The manure spreader is a valuable implement because it saves so much of the labor of handling manure. Then in hauling, one must count the cost. Manure cannot be profitably hauled long distances. Nevertheless it will pay farmers to care well for the manure pile.

STILL FORNISH THE SPARROW.

Editor RURAL WORLD: I am glad to find that the English sparrow has found a friend and champion in Mr. J. L. Amerson of Iowa. A one-sided fight is a lone affair to say the least. Friend Amerson's interest in and defense of tree sparrows betrays a goodness of heart and kindly disposition worthy of a better cause. I sincerely hope a part at least of what he says in the defense can be substantiated by actual observation. It is a bad bird indeed of which nothing good can be said. It has been Mr. Amerson's good fortune to be so situated as to see only the sparrow's best behavior. Were he a farmer, being as observant as he is, he might have ocular evidence that would cause him to change his mind. A flock of them can soon eat all the seed from a patch of Kaffir corn, and sorgo seeds, and inillet, wheat and all small grains pay heavy tribute to their greed. They do not fight the blue martin, but if Mr. Sparrow can get possession of the Martin's house, Mrs. Martin can look elsewhere for a home. The only birds that can hold their own with the sparrow are the blue martin, or king bird, and the sparrow. All others are being crowded to the wall by the sparrows that simply take possession, and all others have to move on. They increase so rapidly that they will have complete possession of the continent of America.

I have it from good authority that a farmer in Pennsylvania, with his boys went into his barn one night with a light and with paddles killed 500 sparrows, enough to destroy a large amount of grain in a year.

With all due respect to Mr. Amerson I would like to see all of the English sparrows in America dead, and would do my part toward giving them a decent burial.

Vernon Co., Mo. C. BIRD.

SUCCESS—The ladder of fame is usually scaled step by step. Many of our most distinguished statesmen have had thrilling experiences in reaching their exalted stations. They are well-schooled in the sautary discipline of early toil. Their history reads like romance and excites the sympathy and admiration of mankind. Who can tell but that the boy who guides the plow to day may yet be called to the White House? No other country offers similar opportunities to the boy than America. This is a century which rewards talent, combined with energy.

Senator Warren, of Wyoming, is a striking example of what energy, when properly exercised, will accomplish. "Many years ago the Senator was a boy in Massachusetts," says the Washington Post. "Living in an old-fashioned, unpainted farm house. The kitchen re- place was so large that it took a horse to haul in the back log, which was almost half a tree. There were no stoves then, only a large crane with a pot hanging upon the hooks, while in the corner stood the loom. The attic was the bedroom of the future Senator and his brother. It was a cold room, with crevices through which the snow drifted, and the boys came to the conclusion that they could find something warmer than the mattress on the floor. The took a large firbox, filled it with hay, pulled the cover of the box over them and slept like tops." In those days," said the Senator, "it used to get up at 3 o'clock in the morning and feed the cows, clean the barn, split

The Dairy

DAIRY CONVENTION DATES.

Oregon Dairymen's Association at Salem, Jan. 6, 7, 8, 1902.
 Illinois State Dairy meeting at Freeport, Jan. 7, 8 and 9.
 Vermont Dairy meeting, Montpelier, Jan. 7, 8 and 9, 1902.
 Wisconsin "biscuitmakers" meeting, Milwaukee, Jan. 8, 9 and 10, 1902.
 Wisconsin Buttermakers' Association at Madison, Jan. 15 and 16, 1902. Hartford, Jan. 15 and 16, 1902.
 Nebraska Dairy Association, Lincoln, Jan. 22-24, 1902.
 Michigan Dairymen's Association, Lansing, Feb. 4-6, 1902.
 Ohio Dairy Association, Columbus, Feb. 6-7, 1902.
 Wisconsin Dairymen's Association, Menomonie, Feb. 12-15, 1902. G. W. Burchard, Secretary, Fort Atkinson, Wis.

THE FARM SEPARATOR.

Having, we think, an intimate knowledge of the conditions attending the development of the dairy industry in Missouri, we came to the conclusion a number of years ago that the adoption of the farm separator system would hasten this development more rapidly than would any other means. Of course, as is always the case, there was decided opposition to what it was seen would revolutionize practices and systems which had involved large expenditure of capital. But the revolution was bound to come regardless of the investment.

In a recent issue of the *Dairy and Creamery*, J. H. Monrad, well known in dairy circles, is quoted as saying that the farm separator is slowly but surely invading Nebraska, and that one creamery combination has \$275,000 worth of old creameries and skimming stations that will become dead capital as the practice of skimming on the farm with a hand separator extends. He estimates that not less than a million dollars invested in separator creameries and skimming stations in Nebraska will be completely lost when the hand separator has finished its triumphant march.

Commenting on the triumphant march of the hand (we prefer to call it the farm) separator, the *Dairy and Creamery* says:

"That the hand separator is gaining rapidly in public favor cannot be disputed. That the new system of dairying that is being brought about by this means is an improvement over the older system is a matter upon which there is some disagreement. There is something to be said on both sides, and to an impartial observer the arguments in favor of the system seem to be best from the fact that it is rapidly being extended in almost every dairy district in the country.

"Against the system it is argued that farm condition not being uniform the cream delivered to the creameries is of uneven quality and the manufacture of an even quality of butter is made much more difficult. The control of the cream not being in the hands of the butter-maker from the time it is separated until it is churned, it is claimed, adds to the labors of the butter-maker and detracts from the quality of the product. On the other hand it is argued that where the hand separator is used the producer of the milk has it for use while it is still sweet and warm and more valuable than it ever will be at a later time. He is saved the hauling of the milk from his farm to the creamery and back again, a saving that is considerable in most cases. The hand separator reduces the number of trips to the creamery without reducing the revenues derived from the cows. Where only cream is delivered to the creamery there is no mixture of the milk from several farms, no hard feelings about the quantity of skim milk received, no danger of carrying disease germs from one farm to another and a considerable saving of travel during storms and bad weather.

"That these advantages are appreciated is proven by the rapid extension of the new system. From present appearances we are led to believe that the new system will become universal or nearly so within a short time."

The success of the Blue Valley Creamery Company, of St. Joseph, Mo., at the late Missouri dairy meeting at Palmyra was decidedly favorable to the farm separator system. Their entry of butter at that meeting was scored the highest of all the entries, and it was made from cream separated on the farms of their patrons. This creamery is operated entirely on the farm separator system.

In a letter received recently from Prof. C. H. Eckles, Professor of Dairy Husbandry in the Missouri Agricultural College, the professor says: "I have become convinced that the hand separator system is the one for most sections of our state."

WHY I AM A FARMER AND DAIRY-MAN.

EDITOR RURAL WORLD: I often wonder why so many boys reared on the farm seek some other vocation when they reach manhood. They are tired of the farm and want to get away from the long hours of drudgery, as they call it. Surely they have been brought up to labor with their hands only and not with their brains. What business demands a broader and more comprehensive knowledge than that of the farm? How many farmers can you name in your neighborhood that can tell the composition of their soils, and are able to keep up the fertil-

Dyspepsia

From foreign words meaning *bad cook*, has come rather to signify *bad stomach*; for the most common cause of the disease is a predisposing want of vigor and tone in that organ.

No disease makes life more miserable. Its sufferers certainly do not live to eat; they sometimes wonder if they should eat to live.

Mr. S. H. Wallis, Hillsboro, Ohio, who was greatly troubled with it for years, could not eat anything without much suffering; and Peter R. Gaare, Eau Claire, Wis., who was so afflicted with it that he was nervous, sleepless, and actually sick most of the time, obtained no relief from the medicinally prescribed.

Like thousands of others, they were completely cured by

Hood's Sarsaparilla

according to their own statement voluntarily made. This great medicine strengthens the stomach and the whole digestive system.

HOOD'S PILLS cure constipation. 25 cents.

ity of that soil? How many feeders of cattle and hogs know the cost of producing beef and pork? Such information is of vital importance. This is a reading age and the farmer that does not keep posted on agricultural matters by reading some good farm paper is going to find farming a burdensome occupation and come to the conclusion that it does not pay. In all lines of work new ideas and theories are constantly coming to the front, and unless one is on the alert for these to take advantage of whatever is practical, he will fall behind.

I prefer a dairy in connection with the farm because it keeps up the fertility of the soil, keeps all expenses paid as we go along and gives steady employment the year around, which is a pleasure when there is a daily income, rain or shine. Some think dairying is too confining. True, it is confining; milking must be done morning and night at the proper time, but the more care one gives the dairy the more pay he will receive. Show me a business that does not require much attention to make a success? In a dairying season like the one just past the dairy cow will go right on paying her way with a profit. I never had noticed before such a marked difference between the cow and the steer. We have some two-year-old steers that we are roughing through, and it takes about the same amount of feed to keep the steer that it does the cow. She is worthy of her hire, and pays her board daily, while the steer's pay day is coming. And what if he should lie down and die? He would beat the landlord out of his board bill.

I wish to say just a word in conclusion about our Agricultural College at Columbia. It will pay any young farmer and many older ones to go there and take the short course that is provided. I attended in '96 and feel well paid for my time and money expended. When I returned to the farm I could see more in farming than ever before.

Some seem to have contempt for "book farming" as they call it. But our college experiment stations are doing a grand work, and if we will get the bulletins issued which tell of the work being done, and mentally digest them, we will be better prepared to do successful work. *Audrain Co., Mo.* F. A. DANIELS.

THE MISSOURI STATE BOARD OF AGRICULTURE

Asks Congress to Prevent the Sale of Fraudulent Imitations of Butter.

At the recent annual meeting of the Missouri State Board of Agriculture the following preamble and resolution were adopted:

Whereas, There are now pending in Congress certain bills the objects of which are to prevent the sale of fraudulent imitations of butter, therefore, be it Resolved, That the Missouri State Board of Agriculture, convened in an annual session, do hereby declare that it is opposed to the manufacture and sale of imitations of pure food in any form whatsoever and requests our Senators and members of Congress to use all legitimate means to secure the passage of a law by Congress similar to what is known as the "Grout Bill," and that our secretary be instructed to furnish a copy of this resolution to each Senator and Representative in Congress from Missouri and to the press of the State.

THE OLEO FIGHT.

I am here working for the passage of the "Tawney-Grout" bill, which I presume every farmer in the United States has heard more or less about. It is intended to stop the fraudulent sale of oleomargarine as butter by taxing the color out of it.

As secretary of the National Dairy Union I have had several years' experience in handling legislation for the protection of the farmer who makes butter. I know that if this class of farmers will only let Congress hear from them they can get absolutely everything within the bounds of a possibility they ask for. Senator Allison, the Republican leader in the Senate, says, "If the farmer really wants a thing he must have it." Senator Spooner, another leader, from Wisconsin, the acknowledged leading lawyer in the Senate, says: "The first duty of Congress is to protect agriculture against fraud and imposition." The Speaker of the House, Hon. D. B. Henderson, of Iowa, in his position of influence, greater in some respects than that of the President of the United States, says: "This House cannot afford to and will not smother any measure which farmers are signed to this petition."—Chicago Tribune.

DAIRYING ON HIGH-PRICED LAND.

It is a truism that that branch of agriculture which requires the most painstaking work is the most profitable when the work is well done.

Dairying in any of its branches belongs to that class of farming, as does truck farming. These two branches are probably the only ones which can be successfully conducted on the high-priced lands in many sections. We do not often find the owner of the soil, or milker of a cow, buy four times the weight with a member of Congress than any communication which might come from a city or town. Why?

Political support in towns and cities is largely bought through officeholders. The postmaster, United States marshal, internal revenue collector or other Federal employee, is expected to keep hold of city politics and turn over the votes to the patron. This creamery is operated entirely on the farm separator system.

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WHY I AM A FARMER AND DAIRY-MAN.

EDITOR RURAL WORLD: I often wonder why so many boys reared on the farm seek some other vocation when they reach manhood. They are tired of the farm and want to get away from the long hours of drudgery, as they call it. Surely they have been brought up to labor with their hands only and not with their brains. What business demands a broader and more comprehensive knowledge than that of the farm? How many farmers can you name in your neighborhood that can tell the composition of their soils, and are able to keep up the fertil-

ity of that soil? How many feeders of cattle and hogs know the cost of producing beef and pork? Such information is of vital importance. This is a reading age and the farmer that does not keep posted on agricultural matters by reading some good farm paper is going to find farming a burdensome occupation and come to the conclusion that it does not pay. In all lines of work new ideas and theories are constantly coming to the front, and unless one is on the alert for these to take advantage of whatever is practical, he will fall behind.

He says: "Oh, I can't write good enough to address a United States Senator!" What folly! Do you think a Senator ever notices the spelling or style of your letter? No, sir. He digests its contents. If you do not write a smooth, perfect letter, he says: "This man doesn't write very often; when he does he evidently is in earnest."

It's the rank and file that counts. Leaders are a good thing in their place, but to a Senator or Congressman, the individual farmer counts.

Why won't farmers wake up to their opportunities and power? Why don't they take more interest in things in which they are directly interested? The passage of this oleomargarine bill means anywhere from \$1 to \$10 a cow to every man who milks. Yet, some farmers who would walk a mile to save 3¢ won't spend five minutes of their idle time this winter to make a cow the coming year! This lack of co-operation is at times very discouraging to those who are endeavoring to protect the interest of the farmers. I hope the reading of this article will open the eyes of some, at least.

CHAS. Y. KNIGHT,
 Secretary National Dairy Union.
 Washington, D. C.

THE WORLD'S RECORD.

St. Paul, Minn., Dec. 27.—The world's record for seven days' milk and butter production has been broken by a Ram's County cow. The world's champion is Mercedes Julips Pieterija, a pure-bred Holstein-Friesian cow, owned by the South Side farm, near White Bear station.

The official test which broke the world's record was made under the supervision of the Minnesota experiment station, and extended from December 17 to December 23. The yield for the seven days was 389 pounds of milk, which, according to test, contained 29.47 pounds of butter fat, beating the former world's record by more than a pound.

The former record was made by Brown Bessie, the famous Jersey.

AGRICULTURE A UNIT.

Anybody who studies the signatures of agricultural editors of the "Tawney-Grout" bill will no longer have any doubt as to the unanimity with which agriculture is back of this measure.

The editors of 123 publications, devoted broadly to the farming interests of the country, with combined circulation of 3,600,000 among the farmers of the United States, have joined in the appeal to Congress for the passage of this bill!

Opponents of the measure have stated that the farmers themselves did not know what they wanted, did not understand the matter anyhow. Can they say that the editors of all the leading agricultural publications of the United States do not know what they are talking about, or what their constituents want?

This list of 123 agricultural papers comprises every farm paper of consequence in the United States. Not an editor of a publication with any standing or influence whatever has failed to sign this petition, and the most gratifying part of the entire matter is that there are no sectional lines drawn. The leading agricultural papers of Texas, from whence comes the strongest opposition to the dairy interests, have sided with the dairymen against oleo; from Alabama, Georgia, North Carolina, South Carolina, Arkansas, Tennessee and Florida come the signatures of the agricultural editors to this petition. Even the editor of the paper devoted to cotton, "The Cotton Plant" of South Carolina, is among those who believe it is to the best interest of agriculture that the Tawney-Grout bill be passed.

The agricultural papers of what are known as the cattle States see no harm to agriculture in their States, because we have petitioners from Montana, Colorado, Idaho, and every agricultural editor of the State of Kansas signed the petition, as did practically every one in Nebraska. Not an agricultural paper exists in Missouri but whose editor's name is signed to this petition.—Chicago Tribune.

THE OLEO FIGHT.

I am here working for the passage of the "Tawney-Grout" bill, which I presume every farmer in the United States has heard more or less about. It is intended to stop the fraudulent sale of oleomargarine as butter by taxing the color out of it.

As secretary of the National Dairy Union I have had several years' experience in handling legislation for the protection of the farmer who makes butter. I know that if this class of farmers will only let Congress hear from them they can get absolutely everything within the bounds of a possibility they ask for. Senator Allison, the Republican leader in the Senate, says, "If the farmer really wants a thing he must have it." Senator Spooner, another leader, from Wisconsin, the acknowledged leading lawyer in the Senate, says: "The first duty of Congress is to protect agriculture against fraud and imposition." The Speaker of the House, Hon. D. B. Henderson, of Iowa, in his position of influence, greater in some respects than that of the President of the United States, says: "This House cannot afford to and will not smother any measure which farmers are signed to this petition."—Chicago Tribune.

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Horticulture

A TRIBUTE TO JUDGE MILLER.

Editor RURAL WORLD—It was with deepest sorrow that I learned through your columns of the death of our beloved friend, Judge Samuel Miller of Bluffton, Mo., and as I looked upon his likeness I could not help recalling the pleasant visit I had with him in his home among his trees and plants.

I shall ever cherish his kind advice and fatherly words of encouragement he gave me. With thousands of other RURAL WORLD readers, I will miss the dear old gentleman's Horticultural Talks, which for years have been the first thing looked at on receiving the paper.

We should be thankful, though, that such a man has been spared to a ripe old age, and has been able to do such a work as his has been. For he has by word, work and pen ever been a faithful servant of the cause of Horticulture. And next spring there will be many horticulturists able to say, when looking upon a beautiful orchard all laden with bloom, that they owe their success largely to the writings of this patriarch in the work. Surely he has reared for himself a monument in the hearts of the people that is much more to be desired than the costliest shaft.

As I turn through my scrap book made of the writings I have saved from his pen as published in the RURAL WORLD for the last twelve years (and I want to say I value this book very highly, not only because it came from his pen, but as a reference book) I see many things that I believe would interest the readers. So allow me to quote a few lines from a paper read by him before the Missouri Horticultural Society Dec. 7, 1897. He said "horticulture has its ups and downs like everything else, but if there is any occupation in life that gives more pleasure I have not been able to discover it. Soon my time will come to be carried over the dark stream, but one of my last wishes will be that this noble pursuit of horticulture will receive the attention it deserves." Let us all RURAL WORLD readers see that, so far as it is in our power, his wishes are carried out.

I am also much impressed with a piece entitled "A Tribute to Judge Miller," written by Robt. C. Morris several years ago, in which he says: "No column of the RURAL WORLD contain better counsels and wiser words than those to be found on the horticultural page. It touched my heart a little to read these words in a recent issue from dear old Samuel Miller: 'There are times when I feel despondent and wonder why I am meddling with these things.' Some men mistreat their fellowmen to gain riches and then spend thousands of dollars to erect a monument out of material substances that the tooth of time will finally gnaw into dust. But this dear old practical philanthropist is building a monument in the hearts and out of the affections of his fellowmen that will stand as long as time lasts. His monument is being built of enduring substances. The trees, fruit and flowers are emblematic of immortality. They have in them qualities that live again. Their influence softens the heart, broadens the mind, cultivates the intelligence, develops the perceptions of the beautiful, feeds the purer, better tastes and lifts men up. The dear children Judge Miller speaks of, who will in their glee pick up the nuts, will find in after years that they picked up with them a blessing—a bud that will grow into character. The child who picks the cherries, strawberries, peaches, grapes and flowers that were developed through the labor and painstaking care of our friend will, unconsciously, receive a quality that was put into them by this careful, conscientious man. They will pick the best of its kind." That ambition to have the best of its kind will shape the character of thousands of these buds of promise—the little ones. It is only the material part of our friend who feels the glow of inspiration that warms his heart; illuminates his mind and drives his will power to keep him 'going about doing good.' This holy warmth increases day by day. This 'Adam' has faithfully 'kept the garden,' and when the pearl gates open for him the dear children will be decked him with their welcome, and God's blessing will be his home greeting. If every one who is made the better for such a useful life could throw a pure white rose upon the mound that will finally cover him, it would look like a mountain of snow. Moses did not enter the promised land, but went direct to paradise, but Moses lives to-day in every regenerate heart. The judge can't know us all, but our love for him is none the less pure. We grow despondent because we come so far short of measuring up to his standard of doing good to others. May his years of usefulness be extended until the fullness of time and another be found worthy to wear his mantle."

S. W. MOORE.
Elwell, W. Va.

HORTICULTURAL TALKS.

PECAN INFORMATION WANTED.—A Kentucky reader of the RURAL WORLD, Mrs. Mollie Crice, writes that with repeated efforts she has not been able to get pecans to germinate as when planted, and wishes information as to their treatment.

In reply, will say that the pecan, like all other nuts, must not be allowed to get very dry, or it will not grow. Therefore the nuts must either be planted in the fall, where they are to remain, or be kept moist over winter and placed permanently in the ground in the spring. The latter is preferable, for when put in the open ground in the fall they are liable to be found by mice or squirrels. When planting them out in the spring it is a good plan to place several near together. If these all grow it is an easy matter to destroy all but the strongest one. Pecan trees can be successfully transplanted if done while trees are small.

SUCCESSFUL WINTER PLANTING.—Several years ago on this day, Dec. 24, a pear orchard of 500 trees, mixed varieties, was planted at my old home. Not one tree failed to grow, and the orchard is in fine shape to-day. Trees may be planted at any time while in the dormant state with good results, providing conditions are favorable and the work is properly done.

THE LE CONTE PEAR.—This is an old variety, which, in spite of its faults, is well worth growing, both for home use and for market. When allowed to get thoroughly ripe it becomes mushy and is unfit to eat, but if gathered when firm it is unsurpassed for canning. The fruit is large and beautiful and always sells for the highest price when well grown and properly marketed. Le Conte being a very

rampant grower, is naturally subject to blight, but if planted on its own roots, trees are very rarely entirely destroyed. They kill back, and before you know it are up again with a crop of fine fruit. I would plant Le Conte on its roots in preference to Kieffer.

STOP TO THINK.—Don't think that because a certain party has made big money by growing a certain kind of fruit in a particular locality that you can go ahead and do the same. In the first place, that man may have a better knowledge of how to care for and handle that crop than you, though the main consideration is that the climate and soil conditions may be vastly different with you and the facilities for marketing not so good. As a rule it does not pay to invest much money in anything with which you are not thoroughly familiar.

PEACH BUDS KILLED.—A temperature of 17 degrees below zero seems to have been too much for peach buds. A thorough examination to-day shows that buds are practically all killed. Sweet cherries and some varieties of plums suffered, but still show some live buds. Growers in general, will not mourn the loss of the peach crop. We have had them several years in succession, and to do without them for a year or two will make them more appreciated when they come again. It will also have a tendency to thin out the curculio and will make a better demand for other fruit. It also means change your method of pruning this season. Instead of pruning for fruit, the little branches on which most of the fruit is usually borne should be cut back, leaving stubs about one inch in length. Generally two or more of these little branches will grow from each of these stubs, hence a much better chance for a crop the next year; and by this method it is possible to get your fruit distributed more evenly over the tree. Of course terminal twigs at the end of limbs must be left, in order to encourage trees to grow larger. It will pay to take out all old, exhausted trees and replace them with good, thrifty young ones.

THE FAMILY KITCHEN GARDEN.—Whenever a well-planned, well-cared for vegetable garden is to be found it is invariably considered by its owner the most valuable crop, comparatively speaking, on the farm. Don't neglect the garden, but endeavor to improve it a little each year.

EDWIN H. RIEHL.
North Alton, Ill., Dec. 24, 1901.

SPRAY CAR EXHIBIT AND FARMERS' INSTITUTES.

Editor RURAL WORLD—Beginning at West Plains, Monday, Dec. 16, Prof. John T. Stinson, director of Missouri Fruit experiment station, of Mount Grove, Prof. L. J. Hall, Assistant State Superintendent of Schools, and G. W. Waters, held a series of meetings. On the railroad track was a freight car, which had been furnished free by the Frisco railroad, fitted up with a number of spray pumps (all the leading kinds), dust sprayers, tanks, spraying mixtures, nozzles, extension hose, etc., in fact all the paraphernalia used in spraying for all manner of insects and fungous pests. We had also cases of insects and a fine microscope, with specimens of bitter rot, mildew and other examples of fungous diseases that might be examined through the microscope. From 9 to 10:30 o'clock exhibitions and explanations of our exhibit were made, then an institute session was held. From 1 to 2 p. m. continued car exhibit, then another session of institute, another session also at night. This program was presented at West Plains, Willow Springs, Cushing, Mansfield, Seymour and Rogerville, at each of which places we had good attendance, very good considering the weather, which was cold throughout except on Saturday, when the mercury got above zero. The fruit growers and farmers expressed their approval of the plan. In several cases persons came distances of ten to twenty miles to the meetings. One man from a fruit-growing district said that he had been well paid for his trip and considered it worth \$25 to him. The discussions were of an informal character, and the experiences of fruit growers and farmers were given, which if they prove to be good, will find in after years that they picked up with them a blessing—a bud that will grow into character. The child who picks the cherries, strawberries, peaches, grapes and flowers that were developed through the labor and painstaking care of our friend will, unconsciously, receive a quality that was put into them by this careful, conscientious man. They will pick the best of its kind. That ambition to have the best of its kind will shape the character of thousands of these buds of promise—the little ones. It is only the material part of our friend who feels the glow of inspiration that warms his heart; illuminates his mind and drives his will power to keep him 'going about doing good.' This holy warmth increases day by day. This 'Adam' has faithfully 'kept the garden,' and when the pearl gates open for him the dear children will be decked him with their welcome, and God's blessing will be his home greeting.

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"Land Values and the Possibility of Development in Agriculture" was the subject of an address by George T. Powell, of Briar Cliff Manor, N. Y., president of School of Agriculture. He said: An important line of work that gives promise of value is the origination of varieties adapted to the conditions where the fruit is to be grown. We have orchards full of disease, bearing fruit of inferior quality, because varieties are planted that are not suited to the soil and other conditions where they are grown. Through hybridization there are great possibilities of getting new and most valuable varieties that are better suited to difficult and widely varying sections where orchards are being planted on a large and commercial scale. Not far in the future, nurserymen will recognize this principle in propagating trees. A very few are already adopting this method, others will soon follow and orchardists will be able to buy trees grown in the nursery.

Trees having been selected and grown upon this improved method, the management after planting becomes highly important. In a large majority of instances, careful cultivation of the soil will prove better. To the want of cultivation more than any other cause, may be traced the great amount of inferior fruit that is found in our markets. In most uncultivated orchards seldom above twenty per cent of strictly fine number one apples can be barreled; sixty per cent will run number two, while twenty per cent will be unmarketable. Where cultivation is given, it should be done by plowing very lightly at the earliest opportunity in the spring, then keep the ground frequently harrowed up to July 10 or 15, when a clover crop should be sown for the good of the soil and of the trees during the winter months.

I have used with great success crimson clover for this purpose. Crimson clover is an annual plant and for this reason it grows quickly and will make a better cover than the common red clover when sown as late as the middle of July.

Where the crimson clover will not thrive, Canada pease will do well and be of value.

With the use of crimson clover, the renovation and improvement of the soil through the use of clover or pease may be obtained very economically. I believe it is possible to continue and to increase the productions of the soil for generations to come, and by the aid of clover and other leguminous plants to add more nitrogen than will be taken from the soil by the crops grown.

JAMES HANDLY.

Editor RURAL WORLD—The dial of the punching machine won't answer that question. Strength depends on nutrition. When the stomach and other organs of digestion and nutrition are diseased, the body fails to receive its full supply of nourishment and hence grows weak. That is why no man is stronger than his stomach.

Pierce's Golden Medical Discovery cures diseases of the stomach and the allied organs of digestion and nutrition. The food eaten is then perfectly digested and assimilated and the body is made strong in the only possible way—by nutrition.

"I was troubled with indigestion for about two years," writes Wm. Bowker, Esq., of Julieta, Ill. "I tried all kinds of remedies but to no avail until I went to you and told you what to do. I suffered with a pain in my stomach and left home and thought I had the grippe. I am now well again and let you know that I am all right. I can do my work now without pain and I don't have that fear that I used to have. Your brother Dr. Pierce's Golden Medical Discovery and two vials of his 'Pleasant Pellets' cured me."

G. W. WATERS.

Dec. 22.

No Money Wanted.

Simply Tell Me the Book You Need.

Please write a postal to know what I spent a lifetime in learning. It is a way to get well—often the only way.

With the book I will send an order on your druggist for six bottles Dr. Shoop's Restorative; and he will let you test it is month. If satisfied, the cost is \$5.50. If it fails, I will pay your druggist myself.

Think what that means. On any other remedy such an offer would bankrupt the maker. But I have furnished my remedy to over half a million people on just those terms, and 25 out of each 40 have paid for it, because they were cured. When it fails not a penny is wasted.

My success comes from strengthening the inside nerves. I bring back the power that operates the vital organs. Nerve power alone can overcome this weakness. The parsnip contains but little nutrient value, mostly starch and sugar, with one per cent mineral matter. It should be handled with care in cooking and serving, as the fibrous matter contained therein makes it difficult of digestion.

The beet, owing to the amount of sugar it contains, is considered more nutritious than any other esculent tuber except the potato.

Celeri contains an aromatic oil, sugar, mucilage, starch and manna sugar. The daily moderate use of celeri is said to remove nervousness and even palpitation of the heart. For rheumatism and kidney trouble it is considered excellent. Those having weak digestion should eat celeri cooked, as the fiber of celeri makes it difficult of digestion.

The onion, belonging to the same family as the garlic and leek, is classed among the vegetables of value as a blood purifier; it stimulates the secretions, and like celeri, is useful for nervousness. The strong taste and smell of onion is due to a volatile oil rich in sulphur.

Cabbage, if properly cooked, is a valuable vegetable, possessing marked antiseptic virtue. Hippocrates, the Father of Medicine, considered the cabbage one of the most valuable of remedies. Erastus deemed it a valuable remedy against paralysis. Cato, in his writings, claimed it to be a panacea for all diseases

FOR TEN CENTS.

By sending 10 cents to James Handly, Secretary of the Mississippi Valley Apiary Growers' Association, Quincy, Ill., one can get a copy of the proceedings of this association for the year 1901. And we assure our readers that the 10 cents will secure a valuable lot of information pertaining to apple growing.

Stops the Cough and Works of the Cold.

Bromo Quinine Tablets cure a cold in one day. No cure, no pay. Price 25 cents.

THE LATE A. NELSON.

At the late meeting of the Missouri State Board of Agriculture the following preamble and resolution were adopted:

Whereas, it has pleased our Heavenly Father to remove from among us one of our number, the Hon. A. Nelson, of Lebanon, Mo., one of the most earnest horticulturists of the state, a man thoroughly devoted to his duties as member of the Board of Agriculture and to the state's material development; therefore

Resolved, That we hereby express our sincere condolence to his family and regret that Providence in his wisdom has seen fit to deprive us of his counsel and assistance, and further recommend that a copy of this resolution be sent to his family and also spread upon the records of this board.

HOW TO DESTROY CATERPILLARS.

Editor RURAL WORLD—The best time to destroy caterpillars is in the winter, when the leaves have dropped off, or early in the spring before the trees leave out, as at these times they can be seen best. I find it best to do this work on the east side of the trees in the forenoon and on the west side in the afternoon, thus avoiding looking toward the sun.

The caterpillars form their rings of eggs on small limbs, usually within a foot or so of the ends. These are easily cut off with a pair of clipping shears. To reach the higher limbs a ladder can be made with the lower end about three feet wide and the upper end brought to a point so it can be pushed through the limbs. Also long handles can be fastened on the shears.

This ring of eggs is about three-fourths of an inch long and a third of an inch in diameter. Being larger than the twigs, they can easily be seen after a little practice. This work should not be neglected.

GERMAN KALI WORKS,

93 Nassau St., New York.

EXCERPTS

From addresses before the late meeting of the Central Illinois Horticultural Society.

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Simply Tell Me the Book You Need.

Please write a postal to know what I spent a lifetime in learning. It is a way to get well—often the only way.

With the book I will send an order on your druggist for six bottles Dr. Shoop's Restorative; and he will let you test it is month. If satisfied, the cost is \$5.50. If it fails, I will pay your druggist myself.

Think what that means. On any other remedy such an offer would bankrupt the maker. But I have furnished my remedy to over half a million people on just those terms, and 25 out of each 40 have paid for it, because they were cured. When it fails not a penny is wasted.</



Live Stock

DATE CLAIMS FOR LIVE STOCK SALES.

January 23 to 24, 1902—Sotham's annual Criterion Sale, at Kansas City. Jan. 14, 15 and 16—Cornish & Patten, Osborn, Mo., and others, at Kansas City, Mo. Hereford cattle. Feb. 4, 1902—Biltmore Farms (Biltmore, N. C.) Annual Brood Sow Sale. Feb. 11-12, 1902—Redhead Anstey, Bories and others, at South Omaha, Neb. Hereford cattle. March 4-5-6, 1902—M. Forbes & Son, Henry, III, J. F. Frather, Williamsville, Ill.; S. E. Prather & Son, Springfield, Ill.; C. B. Dustin & Son, Summerville, Ill.; T. J. Womell, Moisy, Mo., and others, at Chicago, Ill. Shorthorn cattle. March 11-12, 1902—W. P. Nichols, West Liberty, Iowa. Shorthorn cattle. June 19-20, C. E. McLane, Danville, Ind., at Indianapolis. Double Standard Polled Burhards. The "National Hereford Exchange" under management of T. F. B. Sotham, as follows: March 25-27, 1902—Chicago. April 25-27, 1902—Kansas City. May 27-29, 1902—Omaha. June 24-26, 1902—Chicago. ABERDEEN ANGUS CATTLE. Feb. 4-6—Combination sale, W. C. McGavock, mgr., Chicago. Jan. 22-24, E. Axline, Oak Grove, Mo. April 10-11—Combination sale, W. C. McGavock, mgr., Kansas City. June 10-11—Combination sale, W. C. McGavock, mgr., Chicago. NATIONAL SHORTHORN SHOWS AND SALES. Feb. 18—At Chicago, Ill., George Allen, Allerton, Ill. March 21 and 22—At Trenton, Mo., combination sale, H. J. Hughes, secretary. March 19—At Kansas City; W. R. Nelson, dispersion sale. March 20—At Kansas City; B. B. and H. T. Groom, Pan-Handle, Texas. March 22—At Vandalia, Mo., Robinson Bros. & Wright. May 9—At Columbia, Mo., Boone County Shorthorn Breeders' Association. May 14—At Kansas City, Mo.; W. T. and H. R. Clay, Pittsburg, Mo.

Veterinary

Answers to questions in this department are given by Dr. T. E. White, former State Veterinarian for Missouri, Sedalia, Mo. Write questions on one side of paper only, and separate from other business. Those wishing a written reply privately must accompany their requests with a fee of one dollar, the professional opinion being one of private advantage.

AZOTURIA.—Last spring I had a mare taken with azoturia or kidney trouble. After she got up it settled in her left hind leg. She seems to be getting better, but the leaders seem to be contracted and are shrunken. There is quite a sunken place just back of her stifle.

Jersey Co., Ill. P. A. BOWLER. Azoturia is not a disease of the kidneys, as many are led to believe, because of the coffee-colored urine. The trouble is due to an accumulation, in all the tissues of the body, of an over-abundance of nitrogen, which the animal is unable to eliminate. The disease is nearly always fatal, yet some cases do recover, but it is generally at the expense of some lesion or other left on the horse. It is possible that your mare may never be any better than she is now, for she should have been treated immediately after her recovery. However, try mixture of arnica, rubbing it in well with the hand about twice a day. Along with this give daily exercise. Do not drive her fast or pull any loads with her until next spring.

DEHORNING ANGORA GOATS.—I have some Angora goats that have very long horns, which I find very much in the way. Will it do to dehorn them? If so, please give any special directions necessary.

W. D. MAYFIELD.

Washington Co., Ark. There seems to be no good reason why the dehorning of a goat should not be successfully done as in the steer, especially if the animal is taken when young. In the aged goat there is this difference to encounter: In cattle there is some little space from base of horn to horn, while in aged goats there is none; as a consequence, the operation would practically take off the top of the head, making a wound which, it is doubtful, would ever heal entirely over. The care of the horn, in a very young animal, starts as a button or nucleus. This button can be moved to and fro with the fingers; by and by the button becomes permanently attached to the skull and becomes the horn core; as it keeps on growing it pushes the skin before it, forming, as it does so, the horn matrix, and from the matrix grows the horn; consequently in dehorning no part of this matrix must be left on the skin of a freak horn will start to grow. To perform the operation properly always be sure to take at least a quarter of an inch of hide away all around with the horn, using a butcher's meat saw to amputate the horns.

H. A. BARBER, breeder of Shorthorn cattle, Windsor, Mo., writes: "We are having some very severe weather—it de-creases below zero—but our stock is all looking well and I think we will have plenty of feed to carry all the stock through the winter in good shape. My Shorthorns are looking well. I have quite a number of excellent young bulls for breeders to select from."

Make Cows Breed. By mail, \$1.50. Four times a year. Postage paid. C. HOOD & CO., Lowell, Mass.

COTTON SEED HULLS FOR CATTLE

Editor RURAL WORLD: Perhaps few of your readers know of the value of cottonseed hulls for roughage for cattle, old and young. While living in North Carolina we learned of this feed. It is used by the milkmen supplying the towns with milk, but if fed to a considerable extent we found it spoils the grain of the butter. The flavor of the milk was good and it was as rich as when hay was fed.

At first we were afraid to use hulls, fearing the fibre left on the seed would cause trouble and wrote to the manager of Pinehurst concerning its use in their dairy of 30 cows. He replied that he considered it a very valuable feed; had used it with good results for several years. We also obtained a circular, giving the analysis of cottonseed hulls, timothy hay, etc., and found that the feeding value of the hulls was nearly equal to that of timothy hay. Hulls were $\frac{1}{2}$ ton; hay \$30; so we decided to try the hulls. Aside from their value as feed they are said to contain $\frac{1}{2}$ ton of potash per ton, so we felt we could lose nothing by getting them. At first the cows would not eat the hulls at all. We lessened their hay ration and mixed a few hulls in with the bran, gradually increasing the amount of hulls and dropping off hay. In two weeks we fed only a small amount of hay at noon and a few days later stopped feeding hay altogether. In the spring the cows were sleek and in fine condition. We always fed bran and cottonseed meal with the hulls, mixing the grain thoroughly with as much of the hulls as they would eat. The second year's feeding confirmed our opinion of the value of the hulls for cattle. Young stock will grow and keep in fine condition on hulls with a small grain ration. I do not think stock will winter well on hulls without some grain or cottonseed meal, as they probably would not eat enough of them. To milk cows we fed six quarts of bran and two quarts of cottonseed meal; to dry cows, two quarts of bran and one quart of cottonseed meal, and to yearlings two quarts bran and one pint cottonseed meal daily, with what hulls they would eat, always giving salt frequently. Our cows gave fair returns in milk, the young stock made good growth and all were sleek and in fine condition in the spring.

M. F. HOPKINS.

THE KANSAS CITY HEREFORD SALE January 14, 15, 16, 1902.

January 14, 15, 16, 1902.

ENGAGE YOUR ROOMS.—Parties contemplating attending the combination sale of Herefords at Kansas City Jan. 14, 15, 16 will do well to engage their rooms in advance as at that time an implement dealers' convention is in session and from 2,000 to 3,000 out-of-town visitors are expected. Reduced railroad rates from the territory embraced by the Western and Southwestern Passenger Associations will also be in effect, the rate being one fare plus $\frac{1}{2}$ for the round trip. Tickets will go on sale early enough to allow you to attend the first day's sale. Inquire of your nearest railroad agent concerning this.

J. A. LARSON, Everest, Kas., says of his consignment for this sale: "My offering is one heifer and three bulls. The heifer is a 2-year-old and a large, thick-necked daughter of Hesiod 26th. She was bred last May to March on 19th, the bull that sold in the recent Armour-Funkhouser sale for \$700. The three yearling bulls are by Chester 7075, a son of imported Chesterfield." Mr. Larson raises good cattle and four of them are in sale.

JONES BROS., Comiskey, Kas., say: "The cattle we offer are all good vigorous animals that have not been overfed, and we believe will prove to be good investments for their purchasers. Sir Benjamin, by Wild Tom, is a 4-year-old bull that has done remarkable service for us during the two years we have used him, and we only offer him now as we have quite a number of cows in calf to him besides two crops of calves. The yearling bulls are by Fly Belle, a daughter of Black Magic (full brother to Black Monk), and Fly Magna by Abbottsford. She is the mother of a splendid yearling heifer sired by a calf go by Black Monarch of Emerson.

Mr. Williams aims to have stock on hand for sale at all times and just now is offering a bunch of young bulls, and would also spare a few splendid young females. He is his own herdsman, and is at no extra expense in handling his cattle and his herd was drawn on very largely for this one. Rebecca is from the breeding of George Pitt. Her sire, Cecil, is a full brother to Clarence, who has been so successful in the former Armour Importations. Rosette is by John Bull, the son of E. L. Heygate's herd, and is said to be an unusually good sire. Gem 46th is by Hopeful 13th. These cattle will not be in high condition but in a general way are typical of the recent importation, outside of the distended show stuff.

LOWELL, BARROL & DE WITTE, Denver, Col., who own over 400 head of registered Herefords, will consign 13 bulls and 7 heifers. The foundation of their present herd is the old Ridgewood herd, formerly owned by the late C. N. Whitman, which was located near Leaderville, Kas., and was moved to Colorado sometime over two years ago. In this year, this herd made quite a conspicuous display in the show ring, and has been immensely improved in its new quarters and under its present ownership. The Lord Wilton blood largely predominated among the cattle of this herd which have for a long time been crossed with the thin end of the owners' holdings and their cow stock. Is that the ranchmen propose to eliminate all risk during the winter months, and accordingly are sending their weakest stock to the markets, so that the holdovers during the winter, which will be liberal, and imported South Randolph 7062 and imported South Randolph 7158 were placed at the head of the herd. Later on Tom Beau Monde, a son of Wild Tom, and Beau Donald 17th were added to the herd stock. Hesiod 26th has been in service in the herd for some five years. Eastern breeders who have visited this herd express astonishment at the greatly improved condition of the herd and the splendid young animals this farm is raising. It might be well in this connection to call the attention of

the range trade, especially to the number and quality of the bulls offered in this sale. This feature is one that should attract bull buyers, for it is doubtful if a better opportunity will be offered during 1902.

MESSRS. E. A. EAGLE & SON, Rosemont, Kas., write: "Our consignment of 10 head is our second public offering, and consists of 7 heifers and 3 bulls. Hesiod 26th, our herd bull, is a son of Corrector and a full brother to Sir Comewell. Special attention is directed to Frank, a son of Hesiod and out of a Wild Tom cow. Most of our consignment is equally well bred, and any of them will prove a profitable purchase."

A GOOD POLLLED ANGUS HERD.

R. S. WILLIAMS, Liberty, Mo., has a herd of Aberdeen Angus cattle that promises to become one of the noted "doddle" herds in the country. Mr. Williams is a young man and consequently has had but a few years of experience in the breeding business, yet he has already won a good measure of success.

He gave himself the advantage of a good start. His initial purchase consisted of the bull, Mindon 3272, bred by Mr. Hugh Elliott, and sired by the now celebrated breeding bull, Polar Star. Mindon cost him only \$150. He was followed by the purchase of a few females and, to date, Mindon has to his credit more than \$2,000 of his produce that have already been sold. In order to get a bull qualified to follow Mindon, and especially to mate with his daughters, Mr. Williams took considerable pains to locate one which would just suit him and finally purchased the Zaire bull, Zaire 17th. He got him from his breeder, Mr. M. A. Judy. He was got by Emulus 2947, dam Zaire 12th 2663, the by Black Monk, out of Zaridah 3d by Rougemont, a son of the famous Young Viscount. This Zaire tribe has long been a favorite one with Mr. Judy, and in speaking of and recommending this bull, Zaire 17th, he said: "He is a bull with exceeding finish and smoothness, excellent scale, and fleshings propensities, which, together with his choiced pedigree, make him a bull no breeder need hesitate to place at the head of his herd, even though he may have the best lot of cows in the land. His dam is a full sister to Zaire 5th, champion cow over all breeds in 1897, and his sire represents the best blood of all Ballandalloch, the world's greatest breeding establishment." With such a recommendation from Mr. Judy, and the fact that Mr. Williams selected him to cross with the daughters of Mindon, is certainly sufficient compliment for any young stock bull.

In selecting cows Mr. Williams was again careful to get stock from reliable breeders, such as Messrs. R. B. Hudson, Hugh Elliott, C. H. Gardner, M. A. Judy and J. R. Shepherd. The cows represent such families as the Easter Tulich, Caroline, Shropshire Duchess, Erie, Minna, Barbara, Drummin, Flora, Drummin, Grace, Princess Gypsy Flower, etc. We were shown recently a promising bunch of young bulls, mostly got by Mindon. The best of the older ones of this lot has been named William Turpin. He was sired by Moss Creek Knight 4th, a grandson of Imp, Kabul by Young Viscount. His dam, Mascot 3d of Swan Lake, is an own daughter of Imp, Kabul, giving this yearling bull a double cross of Imp, Kabul, which has been conceded to be one of the very best bulls sired by Young Viscount ever brought to this country. These young bulls are a blocky, low-legged, promising lot of youngsters such as Mr. Williams has heretofore found quick and ready sale for. William Turpin is now ready for service and is being priced well within the reach of any breeder or farmer wanting a choice bred young Angus bull. We were also shown a group of yearling heifers and heifer calves, mates to the bulls above referred to, that are the kind Mr. Williams takes considerable pride in showing to those who visit his herd. One of the best of the yearlings was a full sister to his former herd bull, Mindon, making her a daughter of Polar Star and the cow, Mingie, now owned by Mr. Williams. A bull calf recently dropped on the farm, with which Mr. Williams takes especial delight, was sired by this year's champion show bull, Rosegray, a son of Gay Lad. The dam of the youngster is the fine young cow, Gardner Annie. A splendid young cow and two of her daughters which attracted our attention was Fly Belle, a daughter of Black Magic (full brother to Black Monk), and Fly Magna by Abbottsford. She is the mother of a splendid yearling heifer sired by a calf go by Black Monarch of Emerson.

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successful in the former Armour Importations. Rosette is by John Bull, the son of E. L. Heygate's herd, and is said to be an unusually good sire. Gem 46th is by Hopeful 13th. These cattle will not be in high condition but in a general way are typical of the recent importation, outside of the distended show stuff.

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Horseman



H. Heineman's Red Roy, by Red Heart, son of Red Wilkes, trotted a good race in November at the St. Louis Fair Grounds, obtaining a record of 2:24%. Red Heart siring a good deal of speed and doubtless will become one of our great sires.

With ten new standard performers to his credit, Red Wilkes now has a total of 109 in that select circle or in that respect leads all living sires. The old horse, who is now 27 years of age, is owned at Belle Meade Farm, Belle Meade, N. J. Onward, who is a year younger, is a close second, with 109.

The latest figures credit Ashland Wilkes (2:17%) with 20 new standard performers. The other leading sires are: Axel II, 11 new ones; McKinney (2:11%), 11 new ones; Allerton (2:06%), 10 new ones; Direct (2:06%), 10 new ones; Expedition (2:15%), 10 new ones; Spn. (2:20%), 10 new ones.

Four trotting-bred horses from Warren Park, Terre Haute, Ind., were shipped to New York by express last week, en route to Europe. They were bought of W. P. James, by B. Tappan, agent for Prince Smith of Vienna. There were two brood mares, Nemes by Nutwood, and Filette, and two Axel II stallions.

J. Malcolm Forbes had the misfortune to lose by death the trotting mare Ellure (2:06%), which he purchased at auction about a month ago. By the death of Ellure the turf loses a colt by Prodigal. Mated with Mr. Forbes' stallions Arion and Bingen, the public would have looked for a colt of phenomenal speed. Ellure was a chestnut mare foaled in 1899, and by Axel II (2:12), out of Flora McGregor, the sire of the champion trotter, Crescens.

There are now eight sires credited with having sired 100 or more standard performers as follows: Nutwood (2:18) with 16; Electioneer, with 16; Onward (2:25%), with 15; Red Wilkes, with 15; Alcantara (2:22), with 14; Simmons (2:25), with 16; Wilson (2:19%), with 12, and Gambetta Wilkes (2:19%), with 10. The three last named were added to this exclusive list this year. Of those sires, Onward, Red Wilkes, Alcantara, Wilson and Gambetta Wilkes are still living.

A western philosopher has written of the mule as follows: "A mule will live on one-half what a horse eats and do more work. A mule's working years are twice as long as those of a horse. When a mule runs off he always keeps in the road, whereas a horse tries to smash things. No one ever heard of a mule hurting anything in a runaway. In fact, the mule is so well behaved and industrious that people despise him and talk about him. You have heard him accused of being a vicious kicker, but when you hear of a farmer being kicked to death you will notice that a horse did it."

The first year of the new century was an exceedingly prosperous one for the light harness turf, and as a necessary result there was an active and healthy market for horses with speed, the market has been lively and breeders have had their full share of the general prosperity. This is the natural effect of the prosperity of the country, which is seen in all the great manufacturing, mineral and agricultural industries. The signs of the times are equally propitious for next year, and we believe that great as was the season of 1901, the coming season of 1902 will find the sport more prosperous and more popular.

"If farmers want to receive good prices for the horses they produce they must produce the kind that bring high prices. It does not pay to raise a horse that sells for less than a good steer will bring. Farmers must stop selling the best mares and breeding from the poorest. The cheap, underbred stallion must be avoided and colts must be given such attention that they will mature in perfect form. There is nothing the matter with the horse market," says Spirit of the Times, "except that it is bare of the best kind of horses, such horses as the farmers of the country bred a few years ago and sold at prices that made horse breeding profitable."

Under the rules of the National Trotting Association the time between heats best three in five, shall be twenty-five minutes; and the law is mandatory that "not more than two races shall be 'sandwiched' in the performance on one day." The object of the rule is to stimulate, not retard, action. Introduce three races with alternating heats, and the chances are, says Turf, Field and Farm, that the time between heats will average more than twenty-five minutes. The extended periods of the rest will favor faint-hearted horses, and thus prolong each contest. If heats are promptly started at the expiration of twenty-five minutes we shall see the much-talked-of quick action of the running turf introduced on trotting tracks.

The career of Woodburn Farm for the breeding place of trotters will most likely be closed with the going out of this year. The entire lot of trotters, stallions, brood mares and youngsters have been consigned to Woodburn & Shanks' February sale. Woodburn is noted as the birthplace of many of the former great ones, and its passing is of more than usual interest to trotting-horse men. The place has been for years under the management of Lucas Brodhead, who is at the present time a director in the Kentucky

Trotting Horse Breeders' Association. Woodburn, while losing fame, has lost none of its beauty. It must not be imagined that the fences have fallen down and walks washed away at Woodburn because no famous horses have come from there during the last few years, for this is not true. The place is in fine condition, and looks as prosperous as in former years, judging from the buildings, roads and paddocks. One of the unique features of Woodburn is the breeding of Shetland ponies. The herd is small, but one of the finest in America.

There were twelve new additions to the 2:10 trotting list during the past season, and strangely enough five trace to George Wilkes and five to Electioneer, as follows:

WILKES.

Chain Shot 2:06%
Onward Silver 2:08
Dolly Bidwell 2:09%
Cornelia Belle 2:10
Dr. Book 2:10

ELECTIONEER.

Dolly Dillon 2:07
Janice 2:08%
Eleata (4) 2:09%
Cornelia Belle 2:10
Captor 2:10

The two that have neither Electioneer nor Wilkes are May Allen (2:08%) and All Right (2:09%).

In all probability there will be a great change in the system of training running horses in the near future. A return to the good old methods is likely, which has already taken place in the trotting horse world. When Axel II placed the 3-year-old mark of 2:12 at Terre Haute, there was rush to make fast colt trotters. Arion at once made the most wonderful of all 2-year-old records. Turning to the pacers, but one example is needed to show how the theory of colt wonders was put in practice. Monroe Salisbury brought out Directly and gave the little colt a campaign which would have broken down a well-seasoned aged trotter. There were protests against early developments. Old trainers like Budd Double and Warren D. Peabody complained, but it did no good. Mr. Double used to say: "I have warned Senator Stanford that early development was not good for the turf, but then he comes back and says that Arion and Axel II each sold for a small fortune. But there is one thing certain. A pitcher will hold only so much water. You can turn it out all at once and the pitcher is empty. The price 2-year-old seldom lowers his record."

The exportation of horses and mules from New Orleans during the past two years has been the largest of any single port in the history of the world during the same length of time. A report of the exports from the port of New Orleans to South Africa from October 1, 1899, to November 30, 1901, shows the total value of all horses and mule cargoes to have been \$13,483,052. This amount is exclusive of feed, which amounted to \$992,616, making a grand total of \$14,476,270. The following table shows the exact figures for the period in question:

British South Africa 78,970 \$7,032,237

Number. Value.

Portuguese Africa 2,021 190,865

Mules.

British South Africa 67,059 6,260,530

Feed, etc., for horses and mules.

British South Africa 980,654

Portuguese Africa 11,364

Grand total to British South Africa and Portuguese Africa. \$14,476,270

The total number of horses and mules shipped was 143,660, of which 75,991 were horses. Only two shipments out of the above went to Portuguese Africa. This is attributed to the fact that it is a neutral port and other foreign countries doubtless showed their displeasure at having England land horses and mules from other ports during the war with the Boers. The end is not yet in sight by any means. In fact, each week shows larger shipments and increased activity on the part of the large crops of British agents in this country.

The recent sale of Abel and his coming back to Elmwood Farm brings to mind the fact that three of his dam's foals have held champion yearling records, viz., Hinda Rose, 2:36%; Bell Bird, 2:32%, and Abel, 2:23. In this respect Beautiful Bells stands in a class by herself. This mare was foaled in 1872, and it is said she was too nervous and unsteady for track purposes, and after taking a record of 2:29% was put to breeding. She was eight years old when she produced her first foal, Hinda Rose, in 1880, and was past 25 years old when she gave birth to Monbells in 1878. Eleven of her eighteen foals were by Electioneer, three by Advertiser (2:15%) and one each by Piedmont (2:17%), Palo Alto (2:06%), Electricity (2:17%), and Mendocino (2:19%). Abel has had but two foals to race, Adabella, two (2:15%), and Rowellian, three (2:15%). Both are stake winners.

Horse owners who wish to sell their trotters and pacers will have plenty of opportunities, as there are certain to be a number of Eastern buyers looking for good racing prospects and high-class roadsters. It would be well, therefore, to keep horses that are for sale in training, so that speed can be shown, as few purchasers now pay any money out on stories. If an owner has an animal that he claims can trot in 2:35 and is sound, he must show a mile in that time on the track while the prospective buyer holds the watch, and must then be willing to submit the horse to a veterinarian for examination. Otherwise there will not be many sales made.

Even though horse prices are rather high, the high price of feed is influencing a great many farmers to dispose of their stock. If the horses are kinds unsuitable it is perhaps better from an economical standpoint to sell now on a low market than wait for the rise in the spring. Particularly is this true in case the horses to be disposed of are geldings. All things being equal as to the comparative usefulness of geldings and mares on the farm, the latter serve a double purpose, and if good judgement is exercised in the breeding the colts will assist materially in increasing the assets of the farm. Sell your gelding now and buy good, young mares. They'll be higher when the spring trade opens and the advance will be more pronounced with the mares than with the geldings.

A horse's public form often sells him when he is put up at auction. It was formerly imagined that when consigned to the big sales their day of usefulness had departed, yet many of the season's best winners have passed through auctions and improved their former records by many records. Let us cite two cases where an expert buyer and a capable trainer lost golden chances last winter. He had a low price named on Dan Patch, record then 2:16, and unbeaten, and on

Audubon Boy, record at 2:24%, and a promising young pacer. On inspecting each he found they had curvies, so declined to close at the price. Dan Patch to-day has a record of 2:04%, has not lost a race, and but one heat, has earned about \$10,000 for his owner, and last week \$30,000 was refused for him. Audubon Boy has a record of 2:06, has won the only \$10,000 stake ever offered for pacers, has earned \$30,000 approximately, and at Columbus, in July sold for \$15,000.

Tom Drew is handling a string of horses at Oswego, Kas. This place has been the home of Manville, Aladdin, Round's Sprague and other prominent sires, and should turn out some good ones. Tom Drew is one of the earliest of all the drivers in southeast Kansas. It is very doubtful if Tom Drew has a track in 1902, although some of his horses are quite hopeful. Tom will not be as prominent in 1902 as he has been for a year or two back. Chris Steinback is looking for a foal from Alien in the spring, sired by the dead Allercyone. The gray son of Manager has gone back to Iowa. D. M. Ervin is in Kansas helping his brother, W. F. Ervin, with his string of horses. No sire in southwest Missouri is attracting more attention or making more friends than Victor Ene. He will make one or two additions to his standard list in 1902. Tom should take a trotting record close to 2:20 before the season is over. E. Knell will give a meeting on his own grounds. He has one of the best half-mile tracks in the state. The local manager of the Frisco is to look the grounds over next Thursday, Jan. 2, to indicate what he will do towards taking care of the crowd from Joplin, Galena and Webb City. The main line of the Frisco runs within half a mile of the track. The live stock men of the county are anxious that Mr. Knell should go ahead for they feel assured that he will furnish them a great meeting.

HEAVY AND MEDIUM WEIGHTS.

Look at the horse market quotations and you will see that while very heavy horses, weighing from 1,700 to 1,800 pounds, are bringing from \$300 to \$300, the general purpose horses or farm chunks of 1,200 or 1,300 pounds sell for \$50 to \$100. We would infer from this that the heavy ones are worth three or four times as much as the light ones—and so they are for the purposes for which they are used. But it does not follow that they are worth three or four times as much as the light ones for the purposes for which the light ones are used. They may not be worth as much. We pay 75 cents a day for a farm hand and \$2 for a carpenter, but that is no evidence that the carpenter would make a better farm hand than the man to whom we pay 75 cents. General-purpose horses and general-purpose men are cheap because they are plenty. They are plenty because they are easily made. But they both have important places to fill in our business economy. They are just as necessary as the high-priced specialist. Some have said that the general-purpose horse is a no-purpose horse; but that is not correct. There are no-purpose horses, but there is a wide difference between them and the real general-purpose horse.

The heavy horse has a signal advantage in some farm operations. In plowing or operating a manure spreader, the heavy horse is just what is wanted. But in harrowing he does not have an advantage proportionate to his size. For drawing a mowing machine the lighter horse is better. Hitch a heavy horse to the shovel plow or cultivator and start him up and down the corn field, with scarcely room between the three-foot row for him to put his ponderous feet, walking on two rows at once and breaking down more corn in each than a little horse could in one, and you will quickly decide that he was not made for that kind of work. Besides, to carry a thousand pounds of surplus, useless horseflesh over the soft ground of the corn field takes a great deal of energy, and that energy has to be supplied by an extra amount of feed. This through the long winter months of idleness it requires a great deal of grain to keep the heavy horse's huge body in repair. The disadvantages of the big horse are greater on hilly ground, such as most West Virginia farmers cultivate. The thousand-pound horse can do part of the work of the farm in fine shape, but he hasn't the weight and strength to operate most farm machinery. A 1,200 to 1,300-pounder, rangy and active, will in my opinion give the best service on most West Virginia farms.—C. E. Lewis, before West Virginia Live Stock Breeders' Association.

THE COLT HAS WORMS.

It is quite probable that the colt is infested with worms and they must be cleared out before he will thrive. It is always bad to let a colt get down poor at this time of year. It will cost five times as much to put the flesh back on to his bones as it would have kept it there in the first place, and in the end he will never be as good as if his foal flesh had been kept on him. To get rid of the worms in this fellow, first have three powders made, each after this formula: Take of santonin one scruple, powdered sulphate of iron one dram, powdered calumba root two drams. Give three powders on alternate mornings, keeping the colt fasting for eight or ten hours before administering the powder. Two or three days after he has had the last powder give him a drench composed of turpentine one ounce, raw linseed oil one pint, together with one-half ounce of the solution of aloes. See to it that while this medicine is being given the colt is not permitted to get wet or badly chilled. The powders first mentioned must be given in a little soft feed. During treatment feed nothing but soft feed, dampened, but not altogether sloppy. After the drench has operated freely give the young horse a half dram of the sulphate of iron and one dram of the powdered calumba root every day for two weeks. After the drench has operated begin feeding him more grain. He may have about all he will clean up heartily twice a day without any fear of injury, but see and keep his appetite good. Oil meal will be good for him, but not more than a handful a day. A little skim milk may also help him.

When I'd take my seat behind him, I would know just where to find him, and I never used to mind him.

If he scored a little rank; or he might be "wrong," you know! When some one made a blunder, or he might be in a "it" condition, Let him draw any position; He just seemed to know his mission When the word was given—"Go!"

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